

AMENDMENTS TO THE CLAIMS

Please rewrite the claims as follows:

1. (Cancelled)

2. (Currently Amended) An imaging apparatus according to Claim [[1]] 4,
wherein the correcting circuit determines incident light quantity for each pixel
based on the image signals outputted from each pixel and the gamma property
data stored in the memory, corrects the incident light quantity based on the light
quantity distribution data stored in the memory, and generates corrected image
signals in accordance with the corrected incident light quantity.

3. (Cancelled)

4. (Currently Amended) An imaging apparatus for picking-up a subject
image formed by a imaging optical unit, comprising:
an image pickup device for photoelectrically converting the subject image;
a memory for storing gamma property data of said image pickup device
and light quantity distribution data of incident light in accordance with pixel
positions on the image pickup device; and
a correcting circuit for correcting image signals outputted from each pixel
of the image pickup device based on the gamma property data and light quantity
distribution data that are stored in said memory,
wherein the memory also stores light receiving ratio distribution data in
accordance with pixel positions on the image pickup device, and

the correcting circuit corrects the image signals outputted from each pixel based on the gamma property data, light quantity distribution data, and light receiving ratio distribution data that are in the memory, and

An image apparatus according to claim 3, wherein the correcting circuit determines incident light quantity for each pixel based on the image signals outputted from each pixel and gamma property data stored in the memory, corrects the determined incident light quantity based on the light quantity distribution data and light receiving ratio distribution data, and generates corrected image signals in accordance with the corrected incident light quantity.

5. (Currently Amended) An imaging apparatus according to Claim [[1]] 4,

further comprising:

a detecting circuit for detecting the condition of the shooting optical unit, wherein the correcting circuit corrects image signals based on light quantity distribution data in accordance with the condition of the imaging optical unit detected by said detecting circuit in the light quantity distribution data stored in the memory.

6. (Original) An imaging apparatus according to Claim 5, wherein the condition of the imaging optical unit to be detected by the detecting circuit includes at least one of the zooming condition, focusing condition, and stop condition.

7. (Currently Amended) An imaging apparatus according to Claim [[1]] 4,
further comprising:
an image recording circuit for recording the image signals corrected by the
correcting circuit.

8. (Currently Amended) An imaging apparatus according to Claim [[1]] 4,
further comprising:
an image display device for displaying images obtained by the image
signals corrected by the correcting circuit.

9. (Canceled)

10. (Canceled)

11. (Currently Amended) An imaging system provided with an imaging
apparatus having an image pickup device for photoelectrically converting a
subject image and an imaging optical unit that can be detachably mounted to the
imaging apparatus and forms a subject image on the image pickup device,
comprising:

an optical unit side memory provided in the imaging optical unit, where
the optical unit side memory stores light quantity distribution data of incident
light in accordance with pixel positions on the image pickup device;
a communications terminal for data communications between the imaging
apparatus and the imaging optical unit;

an imaging apparatus side memory provided in the imaging apparatus,
where the imaging apparatus side memory stores gamma property data of the
image pickup device; and
a correcting circuit provided in the imaging apparatus, where the
correcting circuit corrects image signals outputted from each pixel of the image
pickup device based on the gamma property data stored in the imaging apparatus
side memory and the light quantity distribution data that is stored in the optical
unit side memory and received from the imaging optical unit via the
communications terminal according to Claim 10,
wherein the correcting circuit determines incident light quantity for each pixel
based on the image signals outputted from each pixel and gamma property data
stored in the imaging apparatus side memory, corrects the determined incident
light quantity based on the light quantity distribution data stored in the optical unit
side memory, and generates corrected image signals in accordance with the
corrected incident light quantity.

12. (Currently Amended) An imaging system according to Claim [[10]] 11,
wherein the imaging apparatus side memory also stores light receiving ratio
distribution data in accordance with pixel positions on the image pickup device,
and

the correcting circuit corrects the image signals outputted from each pixel
based on the gamma property data, light quantity distribution data, and light
receiving ratio distribution data.

13. (Currently Amended) An imaging system provided with an imaging apparatus having an image pickup device for photoelectrically converting a subject image and an imaging optical unit that can be detachably mounted to the imaging apparatus and forms a subject image on the image pickup device, comprising:

an optical unit side memory provided in the imaging optical unit, where the optical unit side memory stores light quantity distribution data of incident light in accordance with pixel positions on the image pickup device;

a communications terminal for data communications between the imaging apparatus and the imaging optical unit;

an imaging apparatus side memory provided in the imaging apparatus, where the imaging apparatus side memory stores gamma property data of the image pickup device; and

a correcting circuit provided in the imaging apparatus, where the correcting circuit corrects image signals outputted from each pixel of the image pickup device based on the gamma property data stored in the imaging apparatus side memory and the light quantity distribution data that is stored in the optical unit side memory and received from the imaging optical unit via the communications terminal, according to Claim 10, wherein the imaging apparatus side memory also stores light receiving ratio distribution data in accordance with pixel positions on the image pickup device, and

the correcting circuit corrects the image signals outputted from each pixel based on the gamma property data, light quantity distribution data, and light receiving ratio distribution data, and

according to Claim 12, wherein the correcting circuit determines incident light quantity for each pixel based on the image signals outputted from each pixel and gamma property data, corrects the determined incident light quantity based on the light quantity distribution data and light receiving ratio distribution data, and generates corrected image signals in accordance with the corrected incident light quantity.

14. (Currently Amended) An imaging system according to Claim [[10]] 11, wherein the imaging optical unit further has a detecting circuit for detecting the condition of the imaging optical unit, wherein the correcting circuit receives light quantity distribution data in accordance with the condition of the imaging optical unit detected by the detecting circuit in the light quantity distribution data stored in the optical unit side memory from the imaging optical unit via the communications terminal, and corrects the image signals based on the received light quantity distribution data.

15. (Original) An imaging system according to Claim 14, wherein the condition of the imaging optical unit to be detected by the detecting circuit includes at least one of the zooming condition, focusing condition, and stop condition.

16. (Currently Amended) An imaging system according to Claim [[10]] 11, wherein the imaging apparatus has an image recording part for recording the image signals corrected by the correcting circuit.

17. (Currently Amended) An imaging system according to Claim [[10]] 11,
wherein the imaging apparatus has an imaging display device for displaying
images obtained by the image signals corrected by the correcting circuit.